

REMARKS

Claims 1-8 are pending in this application.

Applicant would like to thank Examiner Vo for the courtesy extended during the telephone interview of December 14, 2006 and the follow-up phone call on Januray 4, 2007. During the interview, Applicant presented the remarks shown hereinafter detailing the patentability of the claimed arrangement over Halpern with Yodaiken. Examiner Vo reviewed the remarks and, in the follow-up call on January 4, 2007, agreed with Applicants arguments regarding the patentability of the claimed invention and asked that a formal response including these remarks be filed and that claims 1 – 8 are allowable pending a further search.

Rejection of Claims 1-8 under 35 USC § 103(a)

Claims 1-8 are rejected under 35 USC § 103(a) as being unpatentable over Halpern et al. (U.S. Patent No. 5,687,717) in view of Yodaiken (U.S. Patent No. 5,995,745).

The present claimed invention as disclosed in claim 1 provides a critical care workstation. The workstation includes a display device and a processor coupled to the display device. The processor executes a general purpose operating system, controlling execution of a selected one of a plurality of non-real-time application programs for displaying images representing non-real-time data on the display device. The processor also executes a real-time kernel controlling execution of a process for displaying images representing real-time data on the display device concurrently with the display of the non-real-time data. The general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel. The circuitry is responsive to user input for selecting the non-real-time display program from among a plurality of available non-real time display programs.

The present claimed invention is directed towards the use of a **single** processor coupled to a **single** display controller operating under a **single** operating system. Halpern et al. (hereinafter Halpern) describes a patient monitoring system which comprises at least two different computer systems, a “chassis computer” and one or more “portable computers” which communicate with “one or more patient care modules”. (column 2, lines 4-14; column 6, lines 52-66). Halpern neither discloses nor suggests that “a real-time kernel, controlling execution of a process for displaying images representing real-time data on the display device concurrently with the display of the non-real-time data, wherein the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a **common operating system kernel**” as in the present claimed invention. The present claimed invention allows a single graphics display controller to display both real-time and non-real-time data by managing and prioritizing the allocation of resources to the real-time data processing and display. However, unlike the present claimed invention, Halpern is directed towards the execution of the real-time display on portable computers which “operate[] remotely, and communicate[] in a bidirectional, wireless manner with the chassis computer” (col. 5, lines 63-65). Thus, Halpern results in a system in which different computers may execute different tasks – for example, software within the chassis allocates separate memory locations for each patient and directs the modules to the appropriate memory locations. Additionally, Halpern describes that each module which may be monitored or controlled by the portable computer includes an **independent** processor. Unlike the present claimed invention which discloses a **single** processor coupled to a **single** display controller operating under a **single** operating system, Halpern is concerned with a system comprising a network of multiple computers and modules. Thus Applicant respectfully submits Halpern neither discloses nor suggests “wherein the general purpose operating system and the real-time kernel are both arranged to execute as processes on **the** processor using a common operating system kernel” as in the present claimed invention.

In addition, while Halpern in column 8, lines 13-27 and Figure 6E describes the desirability of “a split-screen display [which] simultaneously shows different types of

information...including, but not limited to ... (a) static data ... (b) dynamic data ...or (c) image data," this passage (or the passage cited in the Rejection) neither discloses nor suggests "circuitry, responsive to user input, for selecting the non-real-time display program from among a plurality of available non-real-time display programs" as in the present claimed invention. In fact, column 7, lines 66-67 to column 8, line 1 recites that Figure 6E is an example of a screen display "available on the portable computer's display 24, depending upon the **mode** of the portable computer 22." The present claimed invention, on the other hand, does not require a special mode for the display of different types of information, including real-time along with non-real-time data. Rather, the present claimed invention is "responsive to user input" and provides "circuitry...for **selecting** the non-real-time display program from among a plurality of available non-real-time display program." These features are neither disclosed nor suggested in Halpern. Applicant respectfully submits that the examples recited on Page 3 of the Office Action do not describe the **selection** of a non-real-time display program. Rather, the cited portion of Halpern describe (1) what to do when an active module is added or removed, (2) viewing all modules with alarms (which must be **real-time** due to the nature of an alarm – which goes off after a particular condition happens), and (3) selecting which patients to be monitored from a list of all patients (see col. 12, line 65 – col. 13, line 5). None of these examples describes "circuitry...for selecting the non-real-time display program from among a plurality of available non-real-time display program" as in the present claimed invention.

Yodaiken describes a general purpose operating system that is run using a real time operating system. The general purpose operating system is preempted as needed for real time tasks and is prevented from blocking preemption of non-real time tasks. However, Yodaiken, similarly to Halpern, neither discloses nor suggests "a processor, coupled to the display device, executing: a general purpose operating system, controlling execution of a selected one of a plurality of non-real-time application programs for displaying images representing non-real-time data on the display device; and a real-time kernel, controlling execution of a process for displaying images representing real-time data on the display

device concurrently with the display of the non-real-time data" as recited in the present claimed invention. Rather, Yodaiken describes a system wherein the general purpose operating system is provided as one of the real time tasks for the real time operating system (Abstract). Specifically, the general purpose operating system is run as the lowest priority task and is preempted as needed (column 2, lines 41-44). Yodaiken is merely a scheduler for ensuring that real time tasks are executed before the general purpose operating system tasks. Therefore, Yodaiken does not recognize or attempt to resolve the problem resolved in the present claimed invention. Specifically, choosing which tasks are to be scheduled at what time is NOT a system having "a general purpose operating system, controlling execution of a selected one of a plurality of non-real-time application programs for displaying images representing non-real-time data on the display device; and a real-time kernel, controlling execution of a process for **displaying images representing real-time data on the display device concurrently with the display of the non-real-time data**" as recited in the present claimed invention. Furthermore, Yodaiken (with Halpern) neither discloses nor suggests "the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel" as recited in the present claimed invention.

Also, Yodaiken, similarly to Halpern, neither discloses nor suggests "circuitry, responsive to user input, for selecting the non-real-time display program from among a plurality of available non-real-time display programs" as in the present claimed invention. Rather, Yodaiken merely describes a scheduler that assigns different tasks to a processor based upon priority. Thus, there is no 35 USC 112, compliant enabling disclosure in Halpern and Yodiken when taken alone or in combination which would make the claimed arrangement unpatentable.

It is also respectfully submitted that there is no reason or motivation to combine Halpern and Yodaiken. Halpern is directed towards patient monitoring systems with chassis mounted or remotely operated modules and portable computer, while Yodaiken is concerned with adding real-time support to general purpose operating systems, which

Application No. 09/991,200

Attorney Docket No. 2000P09062US01

involves providing the general purpose operating system as one of the real time tasks. The systems of the Halpern and Yodaiken are non-analogous art and thus it is respectfully submitted that it would not be obvious to combine these systems. Halpern is in the area of multimedia computer systems which is not an area one of ordinary skill would consult to address a problem of concurrent process execution. Additionally, neither of these references are concerned with a general purpose operating system and a real-time kernel that are arranged to execute as processes on a processor using a **common operating system kernel** as in the present claimed invention.

However, even if these references were combined, such a combination would produce a patient monitoring system containing portable computers that could display images representing real-time data and executing processes concerned with non-real-time data after the real-time data has been displayed. This combination still neither discloses nor suggests a system in which “the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel” as in the present claimed invention. This combination also neither discloses nor suggests “circuitry, responsive to user input, for selecting the non-real-time display program from among a plurality of available non-real-time display programs” as in the present claimed invention.

In view of the above remarks and the dependence of claims 2-8 on claim 1, it is respectfully submitted that Halpern and Yodaiken, when taken alone or in combination, provide no 35 USC 112 compliant enabling disclosure showing the above discussed features. It is thus further respectfully submitted that this rejection is satisfied and should be withdrawn.

Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to

Application No. 09/991,200

Attorney Docket No. 2000P09062US01

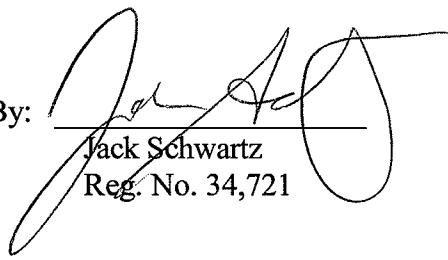
contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No additional fee is believed due with this response. However, if a fee is due, please charge the fee to Deposit Account 50-2828.

Respectfully submitted,
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